

of the concavities 7 is to cause a lifting of the chips or cuttings out of the openings being formed to prevent clogging and to facilitate discharge thereof through the 5 grooves 3.

The providing of the grooves 3 form the body portion 2 with a plurality of lands 8 and each of which extends from the wall 5 of one groove to the wall 4 of an adjacent 10 groove. The periphery of each land 8, is upon a curve of less radius than the arc corresponding to the arc upon which the body portion is made and which provides the periphery or outer face of each land 15 eccentric with respect to the axis of the body portion. The lands are of equal size and the grooves equi-distant. The reference character 9 denotes a clearance back from each cutting edge 6 allowing the latter to 20 cut freely.

The shank 1 at its rear end is formed with an opening 10 in which is frictionally secured a pin 11, the latter having its ends projecting from the shank 1. The pin 11 25 is employed when using the shank in a squared tool socket which prevents the turning of the tool. When using the shank in a cylindrical tool socket the pin is removed.

The curving of the periphery of the lands 30 eccentrically with respect to the axis of the body portion 2 will cause the lands to follow the walls of the opening of the master guide, through which the tool operates, in such a manner as to prevent extended or rounded 35 corners at the junction of the walls of the polygonal shaped opening being formed in the work operated on.

The outer terminus of each of the walls 5 is slightly rounded which facilitates the operation of the tool when revolving within 40 the opening of master guide.

What I claim is:—

1. A tool for the purpose set forth comprising a body portion having lands with 45 the periphery thereof disposed eccentrically

with respect to the axis of the body portion, said body portion further having one end provided with cutting edges disposed eccentrically with respect to the axis thereof, and said body portion further having length- 50 wise grooves between the lands, said grooves leading from the cutting edges and each having one wall thereof in proximity to a cutting edge provided with a concavity disposed at an angle with respect to the direc- 55 tion of length of the groove.

2. A tool for the purpose set forth comprising a body portion having lands with the periphery thereof disposed eccentrically with respect to the axis of the body portion, 60 said body portion further having one end provided with cutting edges disposed eccentrically with respect to the axis thereof, and said body portion further having length- 65 wise grooves between the lands, said grooves leading from the cutting edges and each having one wall thereof in proximity to a cutting edge provided with a concavity disposed at an angle with respect to the direc- 70 tion of length of the groove, a shank integral with said body portion, and each of said grooves having the rear end curved outwardly to discharge the chips or cuttings away from the shank.

3. A tool for the purpose set forth comprising a body portion having lands with the periphery thereof disposed eccentrically with respect to the axis of the body portion, said body portion further having one end 75 provided with cutting edges disposed eccentrically with respect to the axis thereof, and said body portion further having length- 80 wise grooves between the lands, said grooves extending from the cutting edges.

In testimony whereof I affix my signature 85 in the presence of two witnesses.

HARRY J. WATTS.

Witnesses:

MAX H. SROLOVITZ,  
B. E. JENKINS.